

Study finds that collaborating with business contributes to academic productivity

6 May 2019



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Interaction between universities and companies in Brazil has societal, economic and environmental impacts, as well as positive effects on academic productivity. Researchers and research groups who collaborate with business organizations are scientifically more productive. The intellectual and scientific impacts of the partnership are positive.

This is the main finding of a study conducted by Renato de Castro Garcia, a professor at the University of Campinas Economics Institute (IE-UNICAMP), and presented to the 8th Annual Meeting of the Global Research Council (GRC).

The GRC summit was attended by heads of research funding agencies from dozens of countries around the world. Organized by the São Paulo Research Foundation (FAPESP), Argentina's National Scientific and Technical Research Council (CONICET) and the German Research Foundation (DFG), the meeting took place on May 1-3, 2019, in São Paulo, Brazil.

The study is published in the journal *Science and Public Policy*. Its findings are based on a

questionnaire answered by 1,005 researchers and representatives of research centres who reported collaboration with firms to Brazil's National Council for Scientific and Technological Development (CNPq). The data are for 2002-08.

"We divided the researchers into those who interacted regularly and those who interacted only once with business organizations. We found that commercial factors were important for both groups. However, those who interacted regularly saw intellectual benefits such as new ideas for projects or scientific publications as most important," Garcia said.

Garcia co-edited the book *Estudos de caso da interação universidade empresa no Brasil* ("Case studies on university-business interaction in Brazil") with Márcia Rapini of the Federal University of Minas Gerais (UFMG) and Silvio Cário of the Federal University of Santa Catarina. Focusing on studies of academia-industry interaction conducted in several countries, the book is available for download free of charge.

"In Brazil the sectors that interact with universities are often not those considered science-intensive or close to the knowledge frontier, such as electronics, pharmaceuticals or aerospace, for example," said Rapini, who took part in the GRC's annual meeting.

An example can be found in Minas Gerais, she added, where mining and steelmaking are at the forefront of interaction with universities. "These are traditional, well-established industries that focus on export. We observed similar examples in all Brazilian states," she said.

Commenting further on the mining and steelmaking example, Rapini noted that these industries are obliged to interact with universities by law. "It's not spontaneous interaction. This made us realize that interaction is defined by the existence of demand on the part of the firm," she said.

Another finding she highlighted was that interaction occurs in firms with their own internal research and development (R&D) departments. "When a firm produces knowledge internally, it tends to want to reach out to academia. Firms that merely survive don't produce knowledge. This was a lesson we learned. If the firm doesn't want to do it, it doesn't happen. If the basic demand isn't there, there won't be any interaction," Rapini said.

In areas where it is possible to do basic research and publish articles, [interactions](#) is more evident. "There are areas in which partnerships occur because without interacting with industry, firms or productive agricultural establishments the researcher can't do the research or know whether the product developed can be mass-produced or even if it's economically viable," Rapini said.

The book has three levels of analysis: sectoral studies, knowledge areas and studies of firms.

"The book was made possible by a team who brought actual [case studies](#) from each state. Some chapters analyze partnerships between universities and non-traditional industries. We obtained different results from those reported in studies conducted elsewhere, mainly in developed countries. We learned a great deal about our own reality," Rapini said.

The book also shows, Rapini added, that focusing excessively on cooperation with business may lead research centres to ignore opportunities to partner with other sectors, such as NGOs or government. "These partnerships can have a major societal and economic impact in developing countries and should be highly valued," she said.

More information: Renato Garcia et al. How the Benefits, Results and Barriers of Collaboration Affect University Engagement with Industry, *Science and Public Policy* (2018). [DOI: 10.1093/scipol/scy062](#)

Provided by FAPESP

APA citation: Study finds that collaborating with business contributes to academic productivity (2019, May 6) retrieved 17 September 2019 from <https://phys.org/news/2019-05-collaborating-business->

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